



***StreamRunner™ AVA/ATV***  
**Release Notes**

**Software Version 5.0.x**

**MANU0196-02**  
**12/26/97**

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## 1.0 Introduction

These Release Notes highlight the new features and system dependencies associated with the 5.0.0 release of the SVA *ForeThought* software.

## 2.0 UNIX Platform Support

The SVA 5.0 release supports the Solaris 2.5/2.6 and IRIX 6.3 platforms. Support for the SunOS platforms has been dropped. UNIX users must have *ForeThought* device drivers version 4.3 or later installed in order to use the SVA 5.0 software.

Parallax Graphics PowerVideo Motion-JPEG decompression cards are supported under Solaris 2.5 and beyond. Parallax Version 2.0 VDE runtime software must be installed; version 1.0 is no longer supported.

## 3.0 Windows Platform Support

Support for the Windows NT (4.0) and Windows 95 platforms is a new feature in the SVA 5.0 release.



Windows 95 only supports the client side components of SVA 5.0; e.g., you cannot manage an AVA/ATV unit using Windows 95.

The Netpatch audio/video plug-in for Windows is supported by the following web browsers: Netscape v3 (Navigator), Netscape v4 (Communicator) and Microsoft Internet Explorer 3.

### 3.1 Windows NT *ForeThought* Requirements

You must install FT 4.1.6 (1.25) for use with the SVA 5.0 software. In addition, you must install both the ATM device drivers (via the `Network Control Panel`) and the Winsock2 SPI provided by FORE Systems using the `SETUP.EXE` program supplied by FORE Systems.

### 3.2 Windows 95 *ForeThought* Requirements

You must install FT 4.1.6 (1.25) for use with the SVA 5.0 software. In addition, you will need the Winsock2 SDK available from:

<http://www.microsoft.com/win32dev/netwrk/winsock2/ws295sdk.html>

The installation process is as follows:

1. Install the FT 4.1.6 driver components via the `Network Control Panel`.
2. Install the `ws295sdk` which you downloaded from Microsoft's WWW site. A `SETUP.EXE` is provided by Microsoft.
3. Install the Winsock2 SPI provided by FORE Systems using the FORE Systems `SETUP.EXE` program.

## 4.0 High-Performance UNI API Support

FORE Systems now supports high-performance UNI APIs on both Windows NT/95 and UNIX platforms. The XTI interface is used on UNIX platforms and the Winsock2 interface is used on Windows NT/95. Because of this, the SVA 5.0 software is now UNI 3.0- and UNI 3.1-based. Support for SPANS signalling has been removed.

## 5.0 User-Directed SPVCs

Previous releases of the SVA software have required the configuration of PVCs between the AVA/ATV and the device manager. The SVA 5.0 software uses a facility called User-Directed Soft Permanent Virtual Circuits (SPVCs) to establish these control circuits automatically. This greatly simplifies system configuration and maintenance. Currently, this facility is only fully supported when using a FORE Systems-based ATM network.

User-Directed SPVCs are available in *ForeThought* UNIX driver versions 4.3.x and greater. On Windows platforms, support for User-Directed SPVCs is only available in *ForeThought* driver versions 5.0.x and later.

## 6.0 Windows User-Directed SPVC Support

The current *ForeThought* 4.x.x Windows ATM device drivers do not support the User-Directed SPVC facility. This facility will be available with the release of *ForeThought* 5.x.x Windows ATM device drivers. However, the *StreamRunner AVA/ATV User's Manual*, Chapter 6, "SVA Control," describes the use of the User-Directed SPVC facility. Until the new device driver is available, Windows users must use PVC-based SVA manager configurations, which are described in the *StreamRunner AVA/ATV User's Manual's* appendices.

### 6.1 SVA Control Version

SVA Control version a9 is part of code release fcs1. Be sure to note this when contacting FORE Systems' Technical Support.

## 7.0 Quality of Service (QoS)

The release allows QoS specifications to be set for audio, video, and serial data streams. You can set the desired QoS policy from a choice of UBR, CBR, or VBR definitions.



*ForeThought* 5.0 must be installed to support full QoS functionality.

## 8.0 Signalling VCI Space Negotiation

SVA 5.0 now supports VCI space negotiation with the ATM network. Therefore, there is no need to configure a limited VCI space on the signalling channel on the ATM switch to which an AVA/ATV device is attached.

## 9.0 ATV-300 Support

It is now easier to upgrade the ATV-300 over the ATM network. Support for all firmware versions other than the 300.18 release included with the SVA 5.0 software has been dropped (when using ATV-300s with the SVA 5.0 software). In addition to improvements in the handling of video data, the ATV-300 300.18 firmware supports time and date display and video window captions.

## 10.0 Managed PVC Streams

SVA 5.0 device managers now support PVC sink streams in addition to the PVC source streams supported in SVA 4.1.

## 11.0 Null Signalling Managers

The ability to start a device manager without an associated signalling protocol has been removed in SVA 5.0. In SVA 4.1, this facility was termed “Null Signalling Managers.”

## 12.0 View Log Window Limitations

Windows 95 does not allow you to set the line buffer for the View Log Window larger than the visible window. The visible window size can be set to a maximum of 50 lines via “MS-DOS Prompt/Properties”. Therefore, when run from Windows 95, SVA Control displays the most recent messages which fit into the View Log visible window. If you need to view all system messages, run the commands from the DOS prompt, redirecting the output to a file.

## 13.0 Workstation Performance

You must be careful how you load your workstations or PCs. If managers are being run, you must be careful not to overload the computer since these processes require the ability to communicate with their respective devices in a timely manner in order to maintain system operation. On the Windows NT platform, the SVA manager processes assign themselves to run in the highest user priority class that is available.

You should be careful when running video display clients and managers on the same host. A high bit rate video stream may overload the local ATM driver, leading to periodic loss of communication between the managers and their devices.

## 14.0 Video Edit Window Video Size Field Operation

When editing video samples via the Video Size Field’s “Other” scaling option, use the Display Width and Display Height “Max” and “Up” buttons to control the Sample Width and Sample Height “Max” and “Up” functions.

## 15.0 Workstation and PC Requirements

The system requirements for Windows and UNIX platforms are as follows.

### 15.1 Windows 95 System Requirements

- Pentium II, 233MHz or higher (recommended)
- CD-ROM drive
- 15 MB free disk space for installation
- 32 MB RAM minimum
- FORE Systems *ForeRunner* PCA-200E or *ForeRunnerLE* NIC

- Internet Explorer 3.0 or Netscape 3.0/4.0 (optional)
- VGA graphics card with 256 color support (1024x768 screen resolution required)
- Matrox Millenium II with 4 MB memory or Matrox Mystique with 4 MB with optional RainbowRunner Studio for hardware M-JPEG playback (recommended)

## 15.2 Windows NT 4.0 System Requirements

- Intel-based PC only
- Pentium II, 233MHz
- CD-ROM drive
- 15 MB free disk space for installation
- 32 MB RAM minimum
- FORE Systems *ForeRunner* PCA-200E or *ForeRunnerLE* NIC
- Internet Explorer 3.0 or Netscape 3.0/4.0 (optional)
- VGA graphics card with 256 color support (1024x768 screen resolution required)

## 15.3 Solaris 2.5 or Later System Requirements

- SUN Sparc 10 or better (Server component)
- SUN Sparc 20 or better (Display software)
- CD-ROM drive
- 15 MB free disk space for installation
- Optional Parallax Graphics XVideo video cards (Release 2.0 of Parallax libraries)
- FORE Systems *ForeRunner* SBA-200E

## 15.4 IRIX 6.3 System Requirements

- SGI
- CD-ROM drive
- FORE Systems *ForeRunner* SBA-200E



## 16.0 Windows NT/95 Active Movie Support

Two new video sinks, `active_rgb16` and `active_rgb24`, are provided. These render the video stream modes `Rgb 15-bit Little Endian` and `Rgb 24-bit 3-bytes`, respectively. Both require the ActiveMovie 1.0 runtime installed (NT/95), which can be obtained from Microsoft:

<http://www.microsoft.com/directx/resources/enddl.htm>



These sinks require no extra hardware. They are able to function on 16-, 24-, and 32-bit displays, but not on 8-bit devices.

ActiveMovie sinks can do arbitrary video scaling. To be consistent with current `svc-rtds` behavior, it is disabled by default (you can, however, use the `Small/DoubleY/DoubleXY` controls, and corresponding `svapatch` sink options). To enable arbitrary scaling with the mouse, for `svc-rtds` put:

```
*VideoSinkControls.enableResize: 1
```

in `rtds-def` (its resource defaults file; see `rtds-def(4N)` in the *StreamRunner AVA/ATV User's Manual* for details). For `svapatch` local video sinks, use the sink argument:

```
-enable_resize
```



Once you have resized the window manually, the window toolkit keeps the window at that size, so displaying the sink controls will cause them to appear over the video area rather than expanding the whole window and placing them at the bottom.

## 17.0 Windows 95 Hardware Decompression Support

On the Windows 95 platform only there is support for video playback using Matrox video decompression cards. The configuration supported is to use the Matrox Mystique card (4Mb) with the RainbowRunner Studio daughter card. This system delivers excellent video playback results from the AVA-300. It is also anticipated that Matrox Millinium II (4Mb) with RainbowRunner Studio daughter board combination will operate with SVA 5.0 when Matrox releases driver support for this configuration.

A new video sink `active_jpeg` is provided which renders video stream mode "Jpeg". This sink requires ActiveMovie 1.0 and Matrox Mystique and RainbowRunner cards and drivers installed. Matrox supplies ActiveMovie runtime on their CD. Currently, Matrox only supplies RainbowRunner drivers for Windows 95:

<http://www.matrox.com/mgaweb/products/rrunner.htm>

The `active_jpeg` sink functions on 16-, 24-, and 32-bit displays, but not on 8-bit devices. The `active_jpeg` sink supports a restricted set of video field sizes. The width must be one of 704, 352, 176, or 640 pixels. The height must be one of 288, 144, 240, or 120 pixels. The first two heights cause the video output of the RainbowRunner card to produce PAL video, the last two to produce NTSC. The RainbowRunner card cannot actually render video with a width of 640 pixels, so the sink increases the width up to 704 by adding black video to the edge of the field. This causes the aspect ratio of full-field NTSC video to be slightly incorrect when displayed on a TV or monitor via the RainbowRunner's video output.

As detailed in the RainbowRunner manual (page 42 - "Display Information"), the maximum size of the scaled video window is dependent on the screen depth and resolution. For this reason, it is recommended that you configure the display to 16-bit mode. A lower screen resolution will obviously produce "larger" video.

The default stream configuration file `svadefaults` contains two new stream definitions: `matrox-interlace` and `matrox-either`.



### NOTE

If you are not using a decompression card with Windows 95, it is recommended that you use the following video streams:

```
mono
rgb 16
rgb 24
jpeg-pip
```

## 18.0 SVA 5.0 Benchmarks and PC Screen Resolutions

Table 1 is a summary of supported screen depths, resolutions, and benchmarks for SVA 5.0 on Windows NT/95.

**Table 1 - Supported Video Sinks and Video Modes on Windows NT/95 Screen Depths**

Video Sink	Screen Depths	AVA Video Modes
rgb24	24	Rgb24
rgb16_24	24	Rgb15-be Rgb15-le Bgr15-be Bgr15-le
rgb8ed	8	Rgb15-be Rgb15-le Bgr15-be Bgr15-le Rgb24
mono	8	Mono
jpeg_24	24	Jpeg
jpeg_8ed	8	Jpeg
jpeg_mono	8	Jpeg
active_rgb24	15 16 24 32	Rgb24
active_rgb16	15 16 24 32	Rgb15-le
active_jpeg	15 16 24 32	Jpeg
jpeg_null	8 15 16 24 32	Jpeg

**NOTE**

The benchmarks summarized in Table 1 are intended to be used only as a guide. The stated performance levels are not guaranteed; your results may differ depending on the configuration of your workstation and/or network.

**NOTE**

active\_rgb24 and active\_rgb16 require ActiveMovie 1.0 runtime.

**NOTE**

active\_jpeg requires Matrox RainbowRunner Studio and ActiveMovie 1.0.

**NOTE**

The Control Panel may display the number of colors in the palette rather than the number of bits:

8 bit = 256 colors  
15 bit = 32768 colors  
16 bit = 65536 colors  
24 bit = 16777216 colors  
32 bit = true color

**NOTE**

If you cannot see all of the Video Sinks listed in Table 1, try changing the Refresh Rate Selection (Windows 95) or the Refresh Frequency (Windows NT) (both of which are located in the Display Properties Window) of the video card. A value of 75 Hz seems optimal.

## 19.0 Matrox Mystique and Rainbow Runner Studio

The Matrox Mystique and Rainbow Runner Studio Cards provide hardware for M-JPEG playback in Windows 95 and, therefore, support full-frame-rate display of JPEG video.



Only Windows 95 support is currently available.



Only a specific set of display resolutions is supported. Refer to paragraph 3 of Section 17.0, “Windows 95 Hardware Decompression Support,” in these Release Notes.

## 20.0 PC Benchmarks

Table 2 is a summary of PC benchmarks.

**Table 2 - PC Benchmarks**

PC	Video Size	Video Source, Screen Depth, Sink				
		Rgb16, 16, active_rgb16	Rgb24, 16, active_rgb24	Jpeg, 8, jpeg_8ed	Jpeg, 24, jpeg_24	Jpeg, 16, active_jpeg
1	640 x 240	14	7	5	7	N/A
	320 x 240	27	25	14	15	N/A
2	640 x 240	14	7	3	5	30
	320 x 240	27	13	11	13	N/A
	352 x 240	-	-	-	-	30

PC Specifications:

- **PC 1** - PII 233 MHz, NT 4.0, Matrox Millennium II, Active Movie 1.0
- **PC 2** - PII 233 MHz, Win95, Matrox Mystique, Rainbow Runner Studio, Active Movie 1.0

Benchmark Parameters:

- Entries are the maximum observed fps.
- Video streams are all non-interlaced.
- Rgb-16 stream is little-endian; big-endian is not currently supported by the active\_rgb16 sink.
- The video source is NTSC.
- The PCs' display resolutions are 1024 x 768.
- Entries marked N/A indicate an unavailable sink or unsupported video size.
- Entries marked - were not tested.
- Full field size streams (640 x 240) are displayed doubled vertically.
- Half field size streams (320 x 240) are displayed unscaled.



The benchmarks summarized in Table 2 are intended to be used only as a guide. The stated performance levels are not guaranteed; your results may differ depending on the configuration of your workstation and/or network.



When operating at maximum fps, the soft jpeg sinks (jpeg\_8ed and jpeg\_24) cause the user interface to lock up. Therefore, it is recommended that a lower source fps be used.

## 21.0 UNIX Benchmarks

Table 3 is a summary of UNIX benchmarks.

**Table 3 - UNIX Benchmarks**

Frames/second	AVA Mode	Screen Depth	Source Resolution	Display Resolution
30	16-bit Raw	8	320 x 120	320 x 240
30	16-bit Raw	24	320 x 120	320 x 240
20	16-bit Raw	8	320 x 240	320 x 240
20	16-bit Raw	24	320 x 240	320 x 240
30	JPEG	8	320 x 120	320 x 240
30	JPEG	24	320 x 120	320 x 240
20	JPEG	8	320 x 240	320 x 240
20	JPEG	24	320 x 240	320 x 240
15	JPEG	24	640 x 240	640 x 480



The benchmarks summarized in Table 3 are intended to be used only as a guide. The stated performance levels are not guaranteed; your results may differ depending on the configuration of your workstation and/or network.



When the source resolution is less than the display resolution, the `svc-rtds` display software scales the video display locally on the workstation.

Benchmark Parameters:

- The 8-bit video sinks are `rgb8ed` for 16-bit Raw and `jpeg_8ed` for JPEG.
- The 24-bit video sinks are `rgb16_24` for 16-bit Raw and `jpeg_24` for JPEG.



Any Sparc from SS5 up equipped with a Parallax card can display 640 x 480 x 24 bits of JPEG at 30 fps.

## 22.0 SVA 4.1 Compatibility

The SVA 5.0 software release is not compatible with SVA 4.1 in that clients and servers from the different releases will not talk to each other. However, the SVA manager configuration files, etc. that have been developed with SVA 4.1 should continue to function with the SVA 5.0 release.

## 23.0 Bug Fixes

The SVA 5.0 release incorporates all the bug fix patches to SVA 4.1. Additionally, a large number of bugs for which no patches were available have been fixed.

## 24.0 Contacting Technical Support

In the U.S.A., you can contact FORE Systems' Technical Support by any one of four methods:

1. If you have access to the Internet, you may contact FORE Systems' Technical Support via e-mail at the following address:

**support@fore.com**

2. You may FAX your questions to "support" at:

**412-742-7900**

3. You may send questions, via U.S. Mail, to the following address:

**FORE Systems, Inc.  
1000 FORE Drive  
Warrendale, PA 15086-7502**

4. You may telephone your questions to "support" at:

**800-671-FORE or 412-635-3700**

Technical support for non-U.S.A. customers should be handled through your local distributor.

No matter which method is used for technical support, please be prepared to provide the serial number(s) of the product(s) and as much information as possible describing your problem or question.

